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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DAVIS, RUTH A

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,123

Applicant(s)

O' LEARY ET AL.

Examiner

Ruth A. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 25-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-24 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 – 24 in the reply filed on January 27, 2005 is acknowledged.

Claims 25 – 48 are withdrawn from consideration as being drawn to non-elected subject matter.

Specification

2. The disclosure is objected to because of the following informalities:

The first paragraph must include the patent number of the parent applications to which benefit is sought. In line 2, application number 10/419,882 should also recite the U.S Patent Number.

Appropriate correction is required.

Claim Objections

3. Claim 7 is objected to because of the following informalities: The term “form” should be spelled “from”. Appropriate correction is required.

4. Claim 9 is objected to as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 3, 12 and 23 – 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is rendered vague and indefinite because it is unclear if the repellent chemical must contain each of the recited chemicals, or if only one must be present to meet the limitation.

Claim 3 is rendered vague and indefinite because it is unclear if the repellent chemical must be derived from each of the recited sources, or if a single source is sufficient to meet the limitation.

In claim 12, the phrase “animal derivative” is confusing because the phrase have not been adequately defined by the claim language or specification. Specifically, it is unclear what applicant regards as and “animal derivative”, thus the scope of the claim is unclear.

In claims 23 and 24, “the one or more plant-derived, repellent chemicals” lacks sufficient antecedent basis.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 – 4, 6, 12 – 13 and 16 – 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Verbiscar (US 5356881 A).

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellant chemicals and one or more polymers, wherein the polymers form a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The one or more repellant chemicals comprise synthetic, organic, inorganic, biochemical, pharmacological or toxicological substances; the repellant is derived from marine, insect, mammalian, cellular, artificial or natural life forms; or the repellant is plant derived material. The polymers are naturally occurring hydrophilic polymers; comprise one or more natural, water soluble polymers and resins selected from gums, guar gum, xanthan gum, starches, dextrans, proteins, cellulose, polysaccharides, dextrans, carrageenan, agar, alginate, gelatin, casein, pectin, soy bean, lignite, tannins, deoxyribonucleic acid, and animal derivatives; comprises one or more synthetic, water soluble polymers selected from a disclosed group; are controlled release polymers; or are hydrolytically and enzymatically degradable polymers.

Verbiscar teaches a repellent composition comprising plant derived repellents and polymers, for treating plants (abstract,col.7, line 24-30, claims). The repellents are toxicological (col.2 line 23-27) and are derived from plants (a natural life form). The polymers are selected

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from hydrophilic methylcellulose, hydroxyethylcellulose and hydroxypropylcellulose (natural, water soluble cellulose polymers, synthetic water soluble polymers, controlled release polymers, resorbable polymers degradable polymers) (col.7 line 23-31, claims).

Although the reference does not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

Therefore, the reference anticipates the claimed subject matter.

9. Claims 1 – 4, 10, 12 – 16 and 18 – 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown (US 6395290 B2).

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellent chemicals and one or more polymers, wherein the polymers form a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The one or more repellent chemicals comprise synthetic, organic, inorganic, biochemical, pharmacological or toxicological substances; is derived from marine, insect, mammalian, cellular, artificial or natural life forms; or is a plant derived material. The polymers comprise synthetic polymers; one or more natural, water soluble polymers and resins selected from gums,

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guar gum, xanthan gum, starches, dextrans, proteins, cellulose, polysaccharides, dextrans, carrageenan, agar, alginate, gelatin, casein, pectin, soy bean, lignite, tannins, deoxyribonucleic acid, and animal derivatives; one or more synthetic, water soluble polymers selected from a disclosed group; are bioerodible polymers, absorbable polymers, controlled release polymers, high molecular weight, resorbable polymers, hydrolytically and enzymatically degradable polymers; or are selected from carboxymethylcellulose, a polyorthoester, pluronics, a lactide-glycolide co-polymer.

Brown teaches a repellent composition comprising a repellent and polymer (abstract), wherein the composition is used to treat plants (col.1 line 27-33). The repellent is selected from methyl nonyl ketone (artificial, synthetic), animal urine (animal derived), cinnamaldehyde, capsicum (plant derived) (col.3 line 20-40). The polymer is selected from polyethylene, polyvinyl polymers (synthetic, water soluble), polyesters (synthetic, water soluble, controlled release), polylactide/polyglycolide copolymers (bioerodible, resorbable), polyorthesters (bioerodible, absorbable, resorbable), polysaccharides, dextran, cellulose, starches (natural, water soluble), polyurethane (controlled release), polyanhydrides, polycarbonates, polyacrylates, polymethyl methacrylate, polystyrene and polyamino acids (bioerodible, resorbable) (col.3 line 40-col.4 line5).

Although the reference does not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's

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functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

Therefore the reference anticipates the claimed subject matter.

10. Claims 1 – 7, 12 – 13, 15 – 17 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Mason et al. (US 5290557 A).

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellant chemicals and one or more polymers, wherein the polymers form a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The one or more repellant chemicals comprise synthetic, organic, inorganic, biochemical, pharmacological or toxicological substances; is derived from marine, insect, mammalian, cellular, artificial or natural life forms; or is a plant derived material. The repellent is a powder the polymer is a liquid. The polymers are naturally occurring hydrophilic polymers selected from collagen, gelatin, dextrin, polypeptides; comprise one or more natural, water soluble polymers and resins selected from gums, guar gum, xanthan gum, starches, dextrans, proteins, cellulose, polysaccharides, dextrans, carrageenan, agar, alginate, gelatin, casein, pectin, soy bean, lignite, tannins, deoxyribonucleic acid, and animal derivatives; comprises one or more synthetic, water soluble polymers selected from a disclosed group; are absorbable polymers, controlled release polymers; or are one or more high molecular weight, hydrophilic polymers. The repellant is one or more alkaloids isolated from Amaryllidaceae or Liliaceae.

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Mason teaches a composition for treating plants, comprising a repellent composition and a gum (or polymer) (col.2 line 30-35, 52-61). The repellent is derived from a plant (natural life, plant derived, toxicological) (col.2 line 30-36) and the polymer is a gum, xanthan gum, gelatin, hydroxypropyl methylcellulose, agar or cellulose based materials (naturally occurring hydrophilic, water soluble, synthetic, absorbable, controlled release) (col.5 line 20-40). Specifically, the repellent can be a dry formulation (or powder) that is incorporated into a liquid formulation (or liquid polymer) and the repellent is a saponin present in Liliacea or Amarylidaceae (col.3 line 50-57).

Although the reference does not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

Therefore the reference anticipates the claimed subject matter.

11. Claims 1, 8 and 10 – 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoffman et al. (US 2003/0198659 A1).

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellent chemicals and one or more polymers, wherein the polymers form a matrix with

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the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The polymers comprise a charged ion, which forms an ionic complex with the repellent; comprise synthetic polymers selected from self assemble monolayers and a water insoluble amphiphilic polycation molecule.

Hoffmann teaches repellent composition comprising repellent chemicals and polymers (abstract, 0020) wherein the polymers may be charged polymers (self assembled) or multivalent cations (polycations) (0100).

Although the reference does not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

Therefore the reference anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1 and 23 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verbiscar or Brown, in view of Colavita (US 5738851 A).

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellant chemicals and one or more polymers, wherein the polymers form a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The repellant is one or more alkaloids isolated from Amaryllidaceae or Liliaceae, specifically one or more alkaloids isolated from Narcissus.

Verbiscar teaches a repellent composition comprising plant derived repellents and polymers, for treating plants (abstract,col.7, line 24-30, claims). The repellents are toxicological (col.2 line 23-27) and are derived from plants (a natural life form).

Brown teaches a repellent composition comprising a repellent and polymer (abstract), wherein the composition is used to treat plants (col.1 line 27-33). The repellent is selected from

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methyl nonyl ketone (artificial, synthetic), animal urine (animal derived), cinnamaldehyde, capsicum (plant derived) (col.3 line 20-40).

Although the references do not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

The references do not teach the compositions wherein the repellents are one or more alkaloids derived from Amaryllidaceae or Liliaceae, specifically Narcissus. However, Colavito teaches repellent compositions for treating plants wherein the active repellent ingredient is derived from Amaryllidaceae, specifically Narcissus. As evidenced by Colavito, at the time of the claimed invention the claimed derivatives of Amaryllidaceae and Narcissus were well known in the art to have repellent activity and were commonly known to be useful in protecting plants. As such, at the time of the claimed invention, it would have been obvious to one of ordinary skill in the art to use the repellents of Colavito in the repellent compositions of Verbiscar or Brown, since they were well known to have repellent activity and be safe for plant application. Moreover, at the time of the claimed invention, one of ordinary skill in the art would have been motivated by Colavito to use the extracts of Amaryllidaceae and/or Narcissus in the

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compositions of Verbiscar or Brown, with a reasonable expectation for successfully obtaining effective repellent compositions.

15. Claims 1 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verbiscar, Brown or Mason.

Applicant claims a system for treating plants containing biopolymers, comprising one or more repellent chemicals and one or more polymers, wherein the polymers form a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals. The polymer is methylcellulose and carboxymethylcellulose.

Verbiscar teaches a repellent composition comprising plant derived repellents and polymers for treating plants (abstract,col.7, line 24-30, claims). The polymers are selected from hydrophilic methylcellulose, hydroxyethylcellulose and hydroxypropylcellulose (col.7 line 23-31, claims).

Brown teaches a repellent composition comprising a repellent and polymer (abstract), wherein the composition is used to treat plants (col.1 line 27-33). The polymer is selected from cellulose (col.3 line 50-65).

Mason teaches a composition for treating plants, comprising a repellent composition and a polymer (col.2 line 30-35, 52-61). The polymer may be hydroxypropyl methylcellulose or cellulose based materials (col.5 line 20-40).

Although the references do not teach that the polymers form a matrix with the biopolymers in the plant and repellent chemicals to permit a sustained release of the chemicals, the compositions comprise the same ingredients and are therefore the same. Moreover, the

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claimed function must be inherent to the reference composition. The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. (MPEP 2112).

The references do not teach the composition comprising both methylcellulose and carboxymethylcellulose. However the references each teach the compositions wherein the polymers may be one of various cellulose materials, to include methylcellulose. At the time of the claimed invention, it would have been obvious to one of ordinary skill in the art to use any of the claimed cellulose based materials in the reference compositions, since they each teach celluloses are effective polymers for their respective repellent compositions. Moreover, at the time of the claimed invention, one of ordinary skill in the art would have been motivated by the cited references to use the claimed celluloses in the reference compositions with a reasonable expectation for successfully obtaining effective repellent compositions.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claims 1 – 4, 14, 22 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 26 and 27 of copending Application No. 10/419,882. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same compositions of a plant derived repellent and a pluronic polymer, specifically F-127, for treating plants.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth A. Davis whose telephone number is 571-272-0915. The examiner can normally be reached on M-H (7:00-4:30); altn. F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ruth A. Davis
March 31, 2005
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A handwritten signature in black ink, appearing to read 'R. Davis', is positioned to the right of the typed name and date.